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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/937,207	09/21/2001	Leigh Albert Sullivan	CULLLP0161US	6743

7590 03/12/2004

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EXAMINER
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CROSS, LATOYA I

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 03/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/937,207

Applicant(s)

SULLIVAN ET AL.

Examiner

LaToya I. Cross

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 9-21-01.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,6,8-12,14-17,19-22,25 and 26 is/are rejected.
- 7) ☒ Claim(s) 2-5,7,13,18,23 and 24 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9-21-01</u> . | 6) <input type="checkbox"/> Other: _____  |

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## DETAILED ACTION

### *Priority*

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Claim Observations*

- Claim 13 recites "the control unit" and "the measured sulfur hydroxide" for which there is no antecedent basis.
- In claim 25, the phrase "securing the hydrogen sulfide" appears. It is suggested that Applicants use "measuring the hydrogen sulfide" to be more consistent with independent claim 22.

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 6, 8-12, 14-17, 19-22, 25 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by US patent 4,238,198 to Swaim et al.

Swaim et al teach a method and apparatus for determining total inorganic sulfur. The apparatus comprises a reaction chamber (flask 120), a means for introducing a reducing agent (contained in flask 120), a means for measuring the amount of hydrogen sulfide evolved (spectrometer) and a detector (88), as recited in claim 1. With respect to claim 6, Swaim et al

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teach a source of a carrier gas (144), which is gas inlet tube. With respect to claim 8, the reference teaches that the gas is an inert gas such as argon or another noble gas (col. 1, line 66 – col. 2, line 6). With respect to the heating means, recited in claim 9, Swaim et al teach the flask (120) is adapted to be heated by an electrothermal agitator (col. 7, lines 60-63). With respect to the condenser recited in claim 10, Swaim et al teach a condenser section (124) having a condenser (134) cooled by water (refrigerated fluid) circulating through a water inlet (col. 7, lines 53-56). With respect to claim 12, the reference teaches several means for controlling reagents throughout the system, including flow meter/regulator (68), peristaltic pump (114) and nebulizer (92). With respect to claims 14, 15 and 17, the reference teaches that a light signal from the detector is processed and the results of the evolution of hydrogen sulfide are recorded (col. 5, lines 29-39). With respect to claims 16 and 25, Swaim et al teach that the spectrometer may be an ultraviolet atomic emission spectrometer (col. 1, lines 54-55). With respect to claims 19, 20, and 26, the reference teaches that the inorganic sulfur content may be determined in samples of salt matrices. With respect to the method claim 22, Swaim et al teach that inorganic sulfur can be analyzed by introducing a sample into a reducing solution effective to reduce inorganic sulfur to hydrogen sulfide, followed by analyzing the evolved hydrogen sulfide to determine the total inorganic sulfur concentration (col. 1, lines 44-53).

Therefore, for the reasons set forth above, Applicants' claimed invention is deemed to be anticipated, within the meaning of 35 USC 102, in view of the teachings of Swaim et al.

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*Allowable Subject Matter*

3. Claims 2-5, 7, 13, 18, 23 and 24 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The above-mentioned claims are directed to the particular reducing agent used in detecting evolved hydrogen sulfide in a sample, in particular, Cr(II), Sn(II) or Hg(II) and preferably chromous chloride prepared by reacting chromium powder with hydrochloric acid. The prior art of record fails to teach or suggest these particular reagents as reducing agents in detecting hydrogen sulfide. JP publication 08-327625 teaches hydrochloric acid by itself as a reducing agent, but none of the cited references teach chromium, tin or mercury.

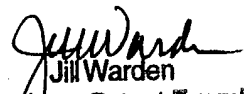
Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaToya I. Cross whose telephone number is 571-272-1256. The examiner can normally be reached on Monday-Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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March 7, 2004

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1743